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Application Number

10/007,502

Filing Date

November 8, 2001

First Named Inventor

Jonathan R. Coppeta

Art Unit

1765

Examiner Name

Ahmed, Shamim

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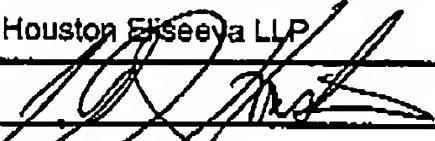
Attorney Docket Number

1099us

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Firm Name	Houston Eliseeva LLP		
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Printed name	J. Grant Houston		
Date	March 9, 2006	Reg. No.	35,900

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In Re: Jonathan R. Coppeta
 Application No: 10/007,502
 Filed: November 8, 2001
 For: Method for Fabricating Micro
 Optical Elements Using CMP
 Customer No.: 25263

Confirmation No: 2283

Group: 1765

Examiner: Ahmed, Shamim

Attorney Docket No.	1099us
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REPLY BRIEF UNDER RULE 1.93(b)(1)

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Sir:

This is the Applicants'-Appellants' Reply to the Examiner's Answer of January 9, 2006.

The following summarizes issues that were presented in the Appellant's Brief and unanswered in the Examiner's Answer.

Relative to Claim 1

It is Applicant's contention that the references do not suggest 'mechanically polishing a surface to modify features to produce optically curved surfaces'.

Kane shows the use of chemical polishing to product curved surfaces.

The Answer at page 4, first full paragraph, points to the following portion of Hawkins for the proposition that the references suggest the claimed invention:

March 9, 2006
Application No.: 10/007,502
Attorney Docket No.: 1099.us

tive index higher than that of the dielectric layer 100. The lens material 130 is preferably chosen from the group silicon 20 nitride, titanium oxide, and tantalum oxide, and can be deposited by vacuum evaporation or by application and densification of sol-gels. The top of the coating of the lens material 130 is irregularly formed at this stage, as depicted in FIG. 5D. Referring now to FIG. 5E, the lens material 130 25 is then planarized optically flat to form optically flat lens surfaces 130a, preferably by chemical mechanical polishing, to the extent that the lens material 130 is removed from the optically flat surface 100a of the dielectric layer 100 in regions where there were no depressions 120a. Because the 30 depressions 120a of FIG. 5C are substantially contiguous, the remaining portions of the original optically flat surface 100a can be removed, either by isotropic etching or by chemical mechanical polishing to a slight extent, to form an optically flat repolished surface 100b of the dielectric layer 35 100 in its place. The optically flat lens surfaces 130a of the

If anything, this portion of Hawkins supports Applicant's position, however. Simply, it was known to use mechanical polishing to produce flat, planarized surfaces—in fact, this is the classic application for CMP (chemical-mechanical-polishing) machines used throughout the semiconductor industry. However, was not obvious from the references to use mechanical polishing to produce optically curved surfaces, as claimed.

For this reason, Applicant-Appellant believes that the claims are patentable.

Should any questions arise, please contact the undersigned.

Respectfully submitted,

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Lexington, Massachusetts 02421
Date: March 9, 2006